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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/868,151	10/17/2001	Olivier Hersent	NCX-002 (6909/3)	6043

7590 09/06/2006

Tiberiu Weisz
GOTTLIEB, RACKMAN & REISMAN
270 Madison Avenue
New York, NY 10016-0601

EXAMINER	
SIMITOSKI, MICHAEL J	

ART UNIT	PAPER NUMBER
2134	

DATE MAILED: 09/06/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/868,151	HERSENT, OLIVIER	
	Examiner	Art Unit	
	Michael J. Simitoski	2134	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *26 June 2006*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-20* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-20* is/are rejected.

7)☒ Claim(s) *20* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☒ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *14 June 2001* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

1. The response of 6/26/2006 was received and considered.

2. Claims 1-20 are pending.

Claim Objections

3. Claim 20 is objected to because of the following informalities: It is believed that claim 20 should depend from claim 16, rather than claim 6. Appropriate correction is required.

Response to Arguments

4. Applicant's arguments filed 6/26/2006 have been fully considered but they are not persuasive.

5. Applicant's response (§A) is not persuasive because the argued limitation is not recited in the claims; however, claim 5 as amended overcomes the 35 USC §112 rejection set forth in the previous Office Action.

6. Applicant's response (§Ba) argues that "It follows then, that the signature to be calculated for every respective packet which is about to be transmitted will also be different". As an initial note, there is no recitation in the claims as to the signatures being different. Further, Applicant's assertion is not necessarily true. Simply because the interfaces can differ, does not imply that the claimed language requires them to differ. Further, even with different interfaces as a result of different contracts, the same operations can be performed and the same signatures will be generated in this scope.

7. Applicant's response (§Bb) argues that Shimbo lacks carrying out control operations on packets and thereafter, transmitting the packet from the access interface to the concentrating router with each packet transmitted with a signature, authenticating that the packet has been subjected to control operations. However, as previously stated, Shimbo carries out packet authentication (control operations) and forwards the packet with a signature indicating that it has passed (col. 11, lines 53-59). Further, Shimbo discloses carrying out packet filtering according to rules (Fig. 3, #304 & col. 15, lines 3-6) before appending the authentication code (Fig. 3, #305). If there is no authentication information associated with the packet, then the packet is considered improper (col. 18, lines 53-56). Therefore, is must pass the control operations to continue on to receive it's signature information for the next hop.

8. Applicant's response (§Bc) argues that "not all of the packets will be encrypted. However, as described in col. 18, lines 53-56, if no authentication data is associated with the packet, then the packet is considered improper (col. 18, lines 53-56). Therefore, for each packet according to the compliant system in Shimbo, each packet undergoes this processing.

9. Applicant's response (§Bd) argues that Applicant recites that the code word of the signature is calculated by hashing at least part of a content of the packet involving a shared secret, but Shimbo does not. However, Applicant is directed to col. 15, lines 43-45 where Shimbo discloses authenticating all data of fields within the packet.

10. Applicant's response (p. 6) argues that "Simply put, there is no such teaching or suggestion in any of these references." However, the Examiner's position is clearly stated in the Office Action and is recited below for convenience. If Applicant disagrees with the Examiner's assertion, flaws in the assertion must be clearly stated and supported by factual evidence.

11. Applicant's response (p. 6) argues that neither Purdy nor Weingart can be combined with Shimbo. Applicant's reasoning for this statement is that Shimbo and Purdy have different goals. However, this is not sufficient reasoning as the goals are not competing. One having ordinary skill in the art would have, armed with the security system of Shimbo, appreciated the benefits of Purdy's reduction of manufacturing costs. Further, one having ordinary skill in the art of computers realizes that the Weingart reference is applicable to any integrated circuit or combination thereof where physical access is possible but not desired.

12. Regarding Applicant's amendments to independent claims 1 & 6, Applicant has added "non-signature analysis". However, the specification does not describe explicitly performing non-signature analysis.

13. Regarding Applicant's new independent claims 11 & 16, the claims discloses carrying out control operations on streams of packets transmitted only to the concentrating router. Shimbo's disclosure reads on this language such that during each hop, the packet and signature is transmitted only to the concentrating router/next hop. Further, the security gateway of any of the embodiments disclosed in Shimbo can be incorporated into the end host (col. 28, lines 1-14), which would be the source/destination.

Specification

14. The specification is objected to as failing to provide proper antecedent basis for the claimed subject matter. See 37 CFR 1.75(d)(1) and MPEP § 608.01(o). Correction of the following is required: The specification does not describe carrying out explicitly non-signature analysis control operations, as claimed in claims 1-10.

Claim Rejections - 35 USC § 112

15. The following is a quotation of the first paragraph of 35 U.S.C. 112:

> The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

16. Claims 1-10 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. The specification does not describe carrying out explicitly non-signature analysis control operations.

17. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

18. Claims 1-10 & 15 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

a. Regarding claims 1-10, it is unclear if "non-signature analysis control operations" refers to analysis control operations that are not signature-related or control operations that are not signature analysis-related. The claims are examined as best understood.

b. Regarding claim 15, the claim is rejected under 35 U.S.C. 112, second paragraph, as being incomplete for omitting essential elements, such omission amounting to a gap between the elements. See MPEP § 2172.01. The omitted elements are: who/what is

obtaining the signature and carrying out the at least some of the control operations. This is vague because claim 11 recites "carrying out, at the access interface, control operations" and "each packet being transmitted with a signature", lending to the interpretation that claim 15 recites steps already performed.

Claim Rejections - 35 USC § 102

19. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

20. Claims 1-4, 6-9 & 11-19 are rejected under 35 U.S.C. 102(e) as being anticipated by U.S. Patent 6,092,191 to Shimbo et al. (**Shimbo**).

Regarding claims 1-2, Shimbo discloses carrying out, at an access interface of a subscriber installation/source side gateway (col. 11, lines 53-57), non-signature analysis control operations/packet filtering, signature creation and routing (Fig. 8, #S807, S809 & S811) on streams of packets transmitted to a concentrating router/next router or destination side gateway (col. 11, lines 53-59), within the framework of a contract (shared keys for authentication code generation, filtering rules for filtering and routing information for routing) between the subscriber and a manager of a shared network (col. 11, line 63 – col. 12, line 12), and after having carried out the control operations concerning a packet to be transmitted, transmitting said packet from the access interface/source side gateway to the concentrating router/next router or

destination side gateway (col. 11, lines 53-59), each packet being transmitted with a signature based on a secret shared with the concentrating router (col. 11, line 63 – col. 12, line 12), authenticating that the packet has been subjected to the control operations/signature creation.

Regarding claims 6-7, the claims are substantially equivalent to claims 1-2, such that the method claimed in claim 1 is performed on the access interface of claim 6 which is applied equally to the router of Shimbo.

Regarding claims 11-12, Shimbo discloses carrying out, at an access interface of a subscriber installation/source side security gateway (col. 11, lines 53-57), non-signature analysis control operations/packet filtering, signature creation and routing (Fig. 8, #S807, S809 & S811) on streams of packets transmitted only to a concentrating router/destination side gateway (col. 11, lines 53-59) which can be incorporated in the host (col. 28, lines 1-14), within the framework of a contract (shared keys for authentication code generation, filtering rules for filtering and routing information for routing) between the subscriber and a manager of a shared network (col. 11, line 63 – col. 12, line 12), and after having carried out the control operations concerning a packet to be transmitted, transmitting said packet from the access interface/source side gateway to the concentrating router/destination side gateway (col. 11, lines 53-59), each packet being transmitted with a signature based on a secret shared with the concentrating router (col. 11, line 63 – col. 12, line 12), authenticating that the packet has been subjected to the control operations/packet filtering, signature creation and routing (Fig. 8, #S807, S809 & S811).

Regarding claims 16-17, the claims are substantially equivalent to claims 11-12, such that the method claimed in claim 11 is performed on the access interface of claim 16 which is applied equally to the router of Shimbo.

Regarding claims 3, 8, 13 & 18, Shimbo discloses the code word/authentication code calculated by hashing at least part of the content of the packet, involving the shared secret (col. 15, lines 35-40).

Regarding claims 4, 9, 14 & 19, Shimbo discloses enciphering using a private key/secret key (col. 15, lines 29-34).

Regarding claim 15, Shimbo discloses obtaining the signature (co. 15, lines 26-40) and carrying out at least some of the control operations (Fig. 3, #302, 304, 305).

Claim Rejections - 35 USC § 103

21. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

22. Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over **Shimbo**, as applied to claim 1 above, in further view of U.S. Patent 5,726,660 to Purdy et al. (**Purdy**). Shimbo lacks the signature and control operations carried out within a single integrated circuit. However, Purdy teaches that combining multiple functional components on a single integrated circuit reduces manufacturing costs significantly (col. 3, line 61 – col. 4, line 2). Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to perform the signature and control operations on a single integrated circuit. One of ordinary skill in the art would have been motivated to perform such a modification to significantly reduce manufacturing costs, as taught by Purdy (col. 3, line 61 – col. 4, line 2).

23. Claims 10 & 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over **Shimbo**, as applied to claims 6 & 16 above, in further view of **Purdy** and U.S. Patent 4,860,351 to **Weingart**. Shimbo lacks the signature and control operations carried out within a single integrated circuit. However, Purdy teaches that combining multiple functional components on a single integrated circuit reduces manufacturing costs significantly (col. 3, line 61 – col. 4, line 2). Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to perform the signature and control operations on a single integrated circuit. One of ordinary skill in the art would have been motivated to perform such a modification to significantly reduce manufacturing costs, as taught by Purdy (col. 3, line 61 – col. 4, line 2). As modified, Shimbo lacks an absence of physical access immediately upstream of a module of the integrated circuit adapted to obtain the signature. However, Weingart teaches that providing an electronic circuit in a tamper-resistant package protects the information stored in the circuit (col. 3, lines 6-11). Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to use an integrated circuit where there is no physical access. One of ordinary skill in the art would have been motivated to perform such a modification to protect the information stored in the circuit, as taught by Weingart (col. 3, lines 6-11).

Conclusion

24. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

c. The references to Alles, Wadlow and Teraslinna are cited for teaching a router applying control operations according to an agreement, such as filtering and quality of service (priority).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Michael J. Simitoski whose telephone number is (571) 272-3841. The examiner can normally be reached on Monday - Thursday, 6:45 a.m. - 4:15 p.m..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jacques Louis-Jacques can be reached on (571) 272-6962. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

MJS

August 21, 2006